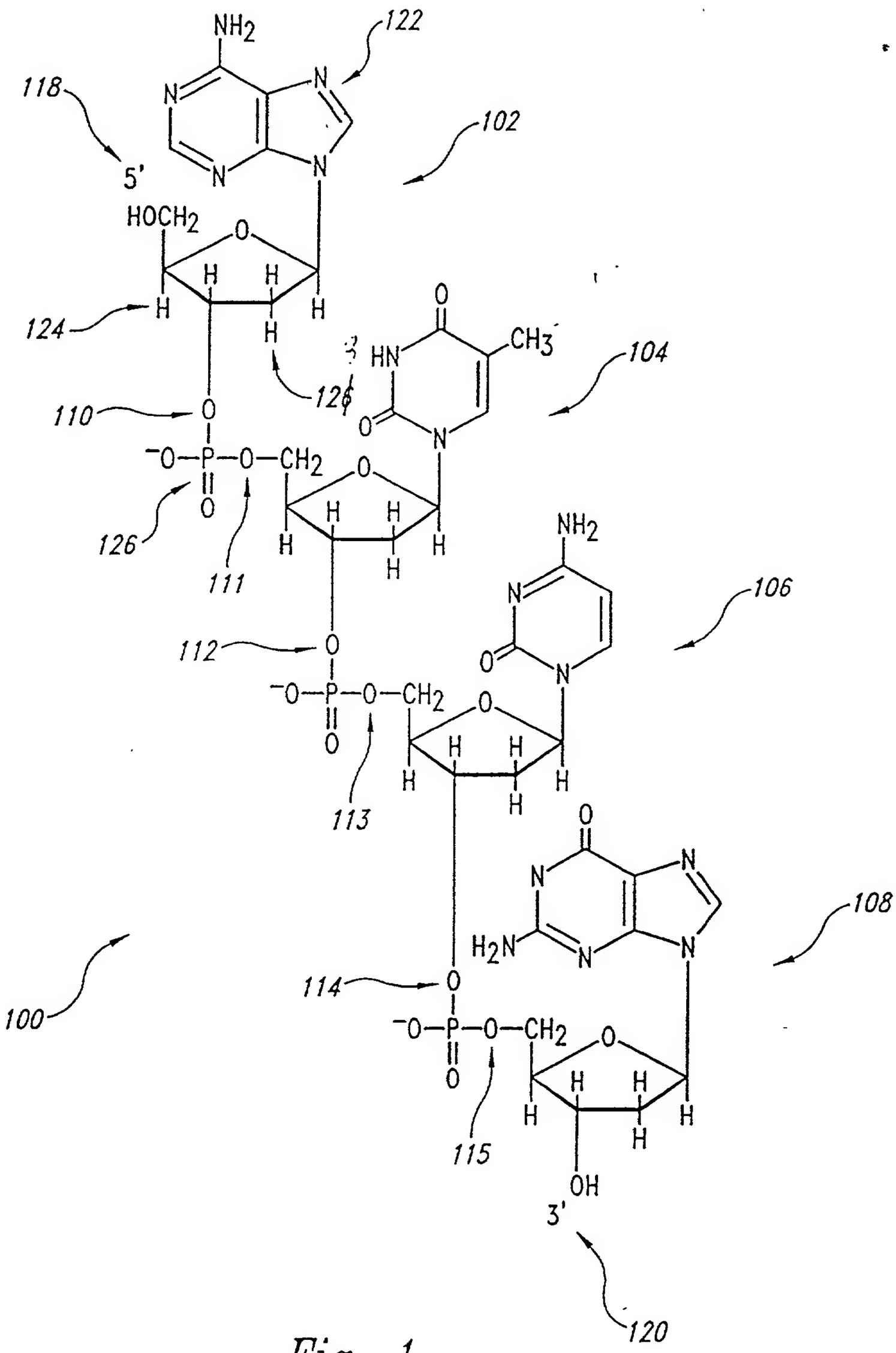
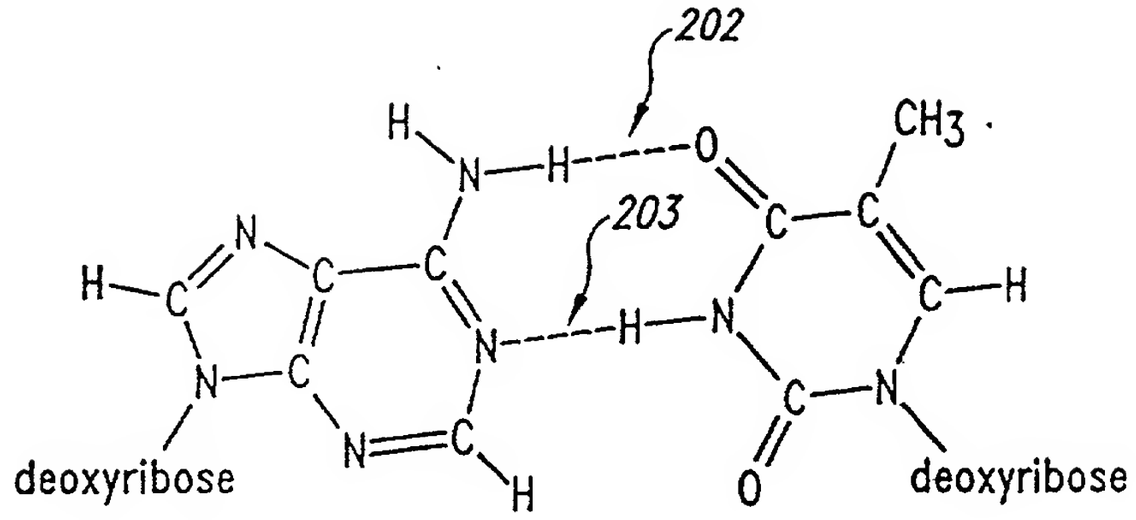

NH2
122
118
5'
102
HOCH2
O
H
H
H
H
H
124
126
110
111
112
113
114
115
116
100
HN
CH3
104
106
108
OH
3'
120

Fig. 1


202
203
H
N
H
O
CH3
C
C
C

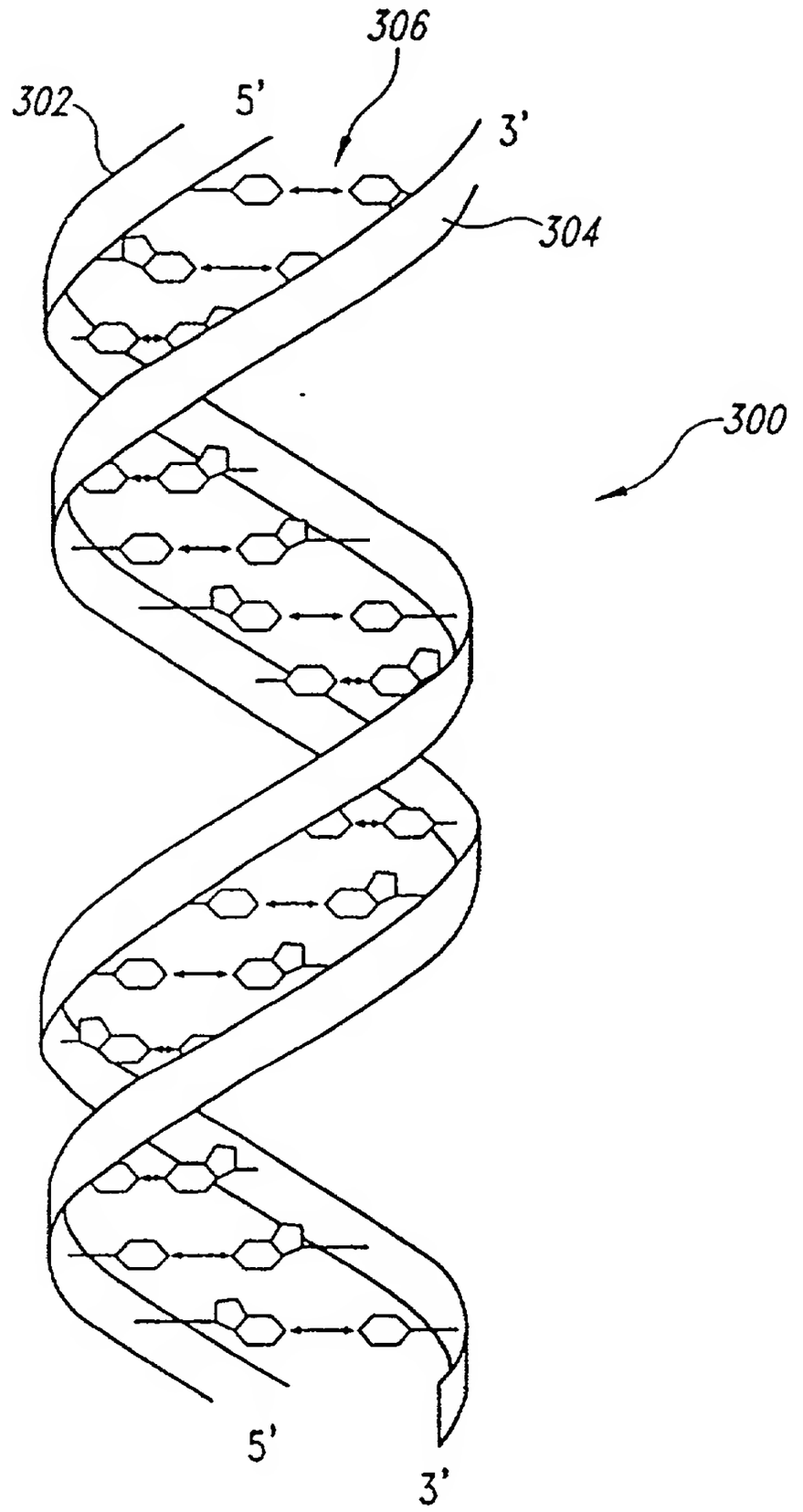


Fig. 3

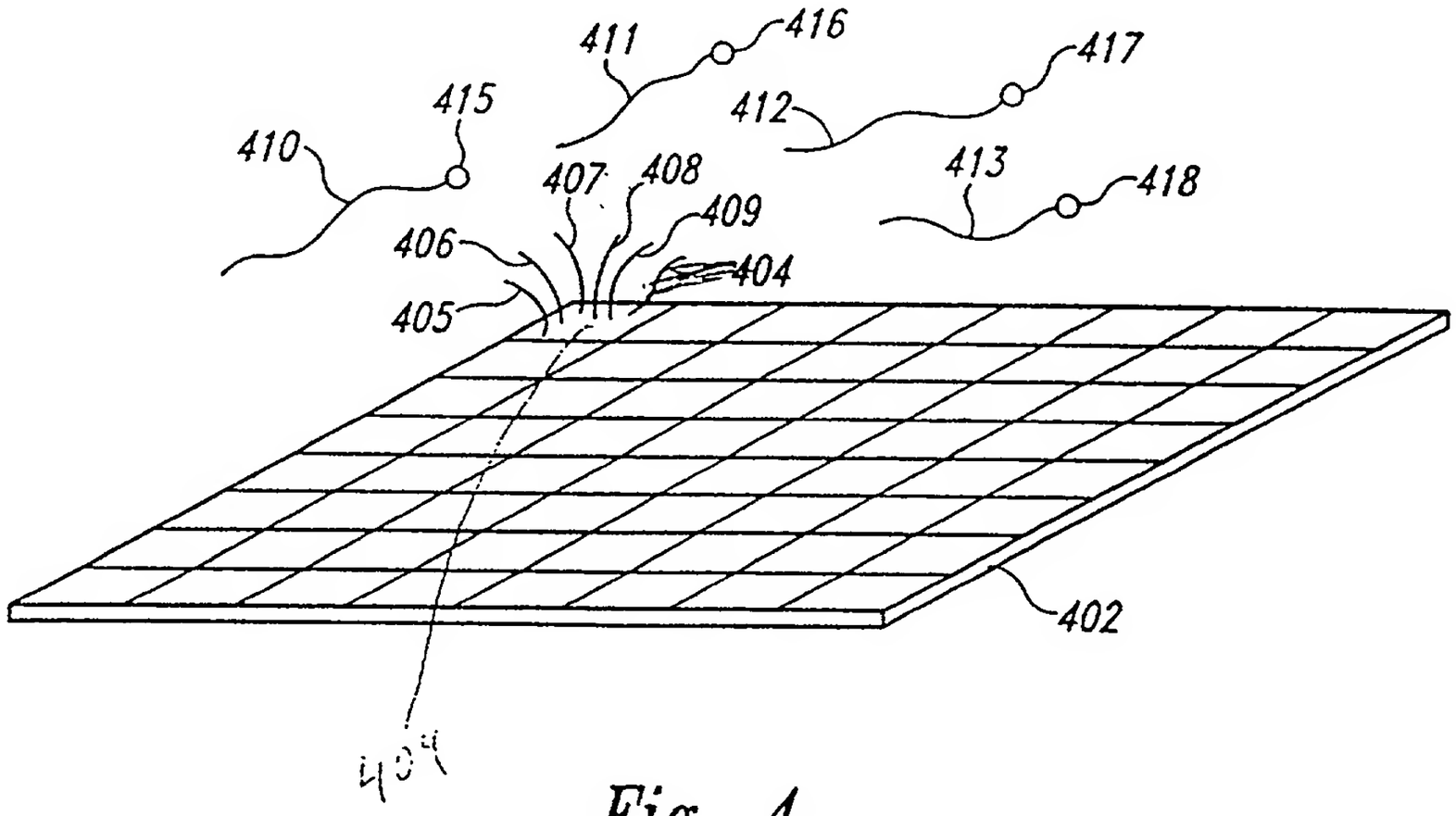

411
416
417
415
412
410
413
418
407
408
409
406
404
405
402

Fig. 4

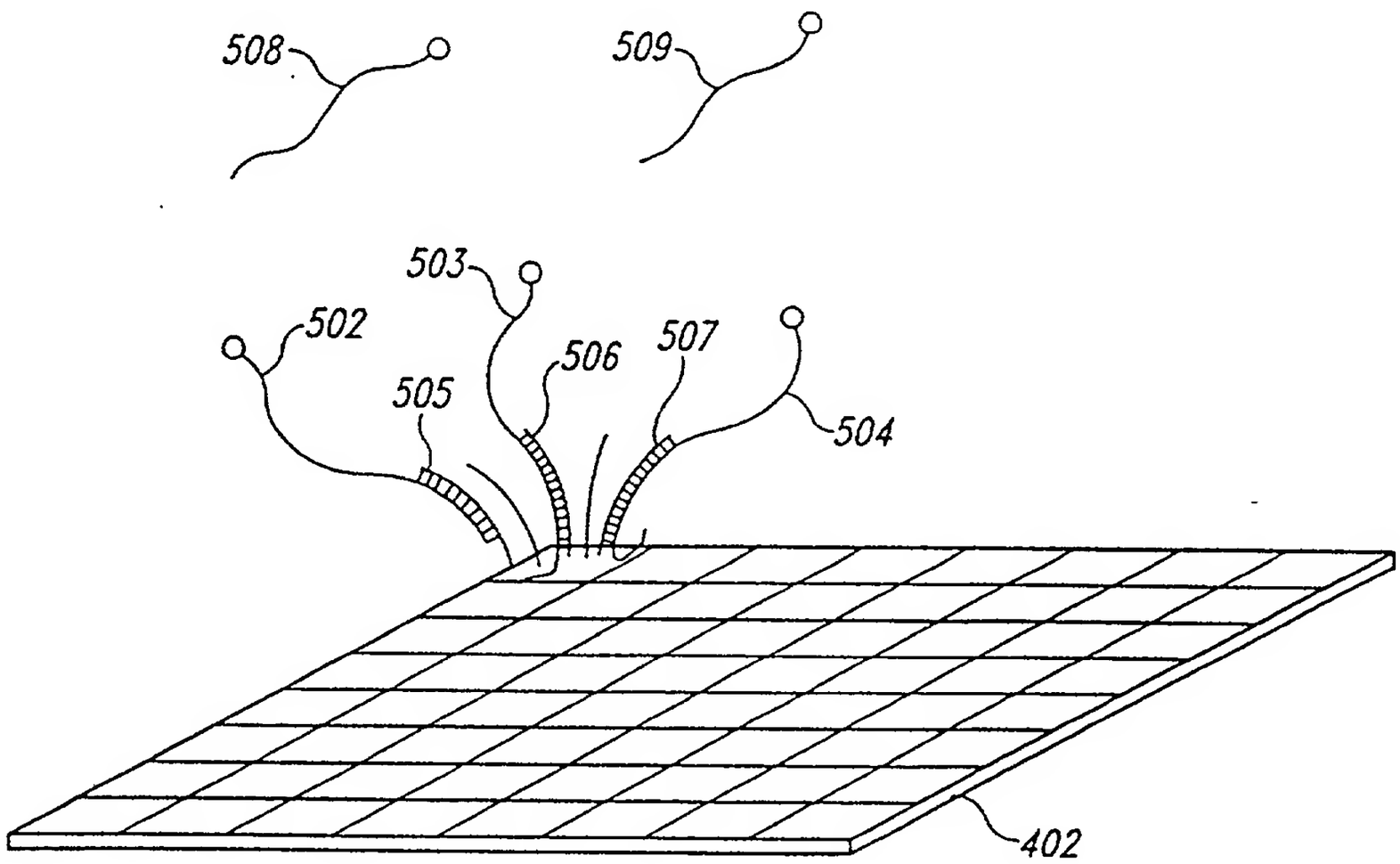

508
509
503
502
506
507
505
504
402

Fig. 5

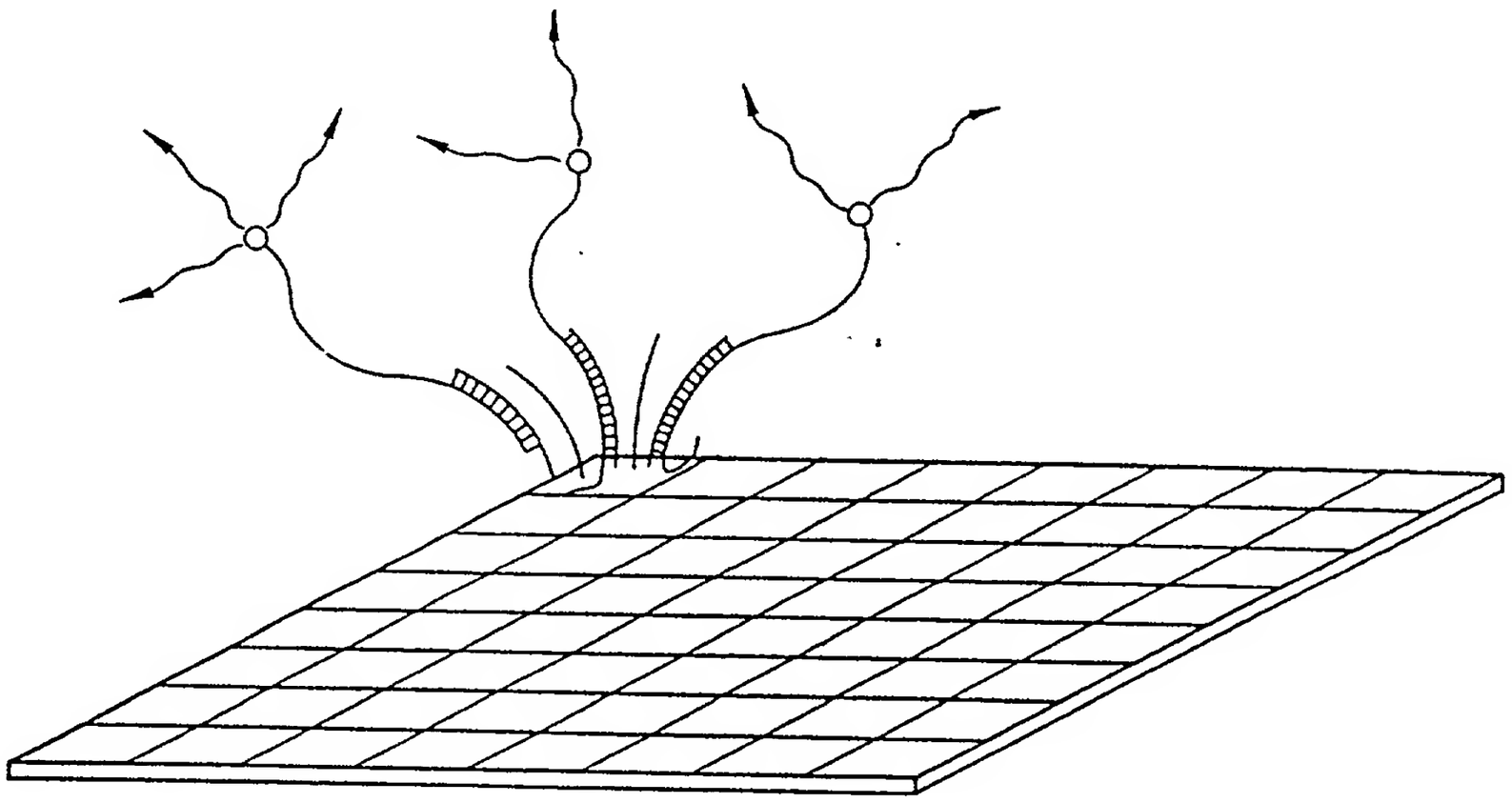


Fig. 6

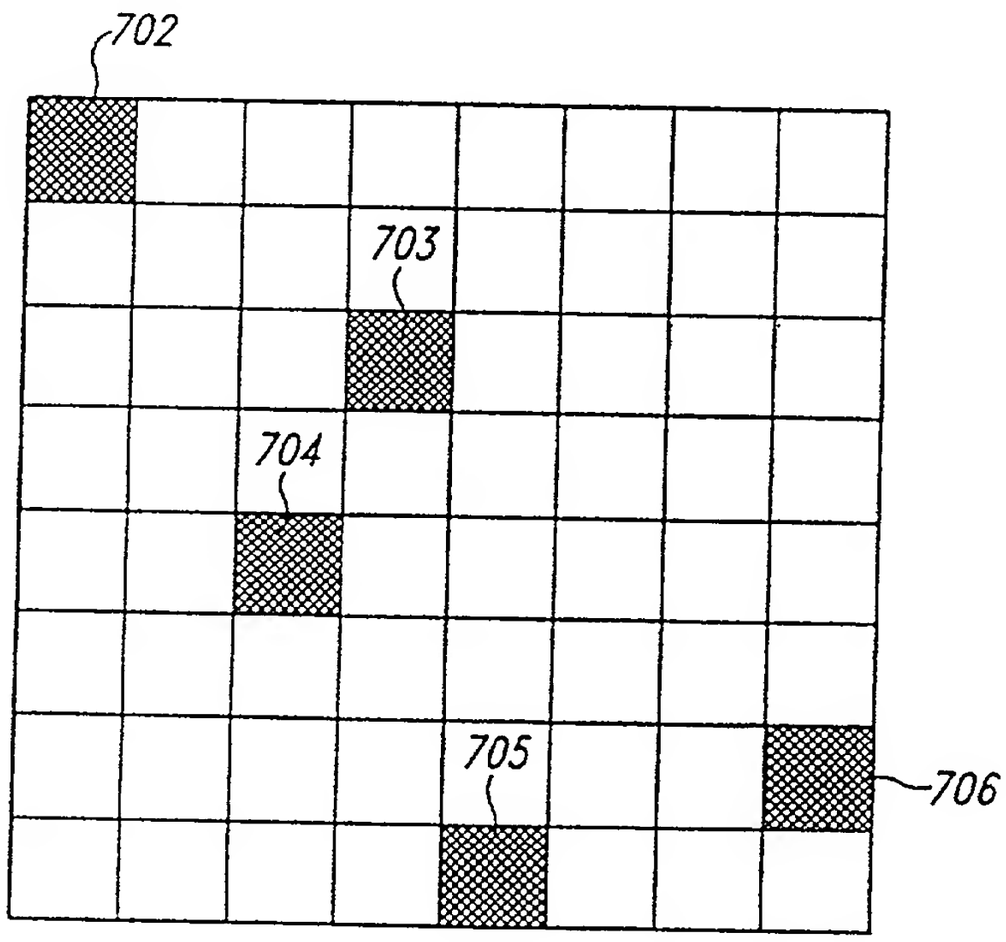
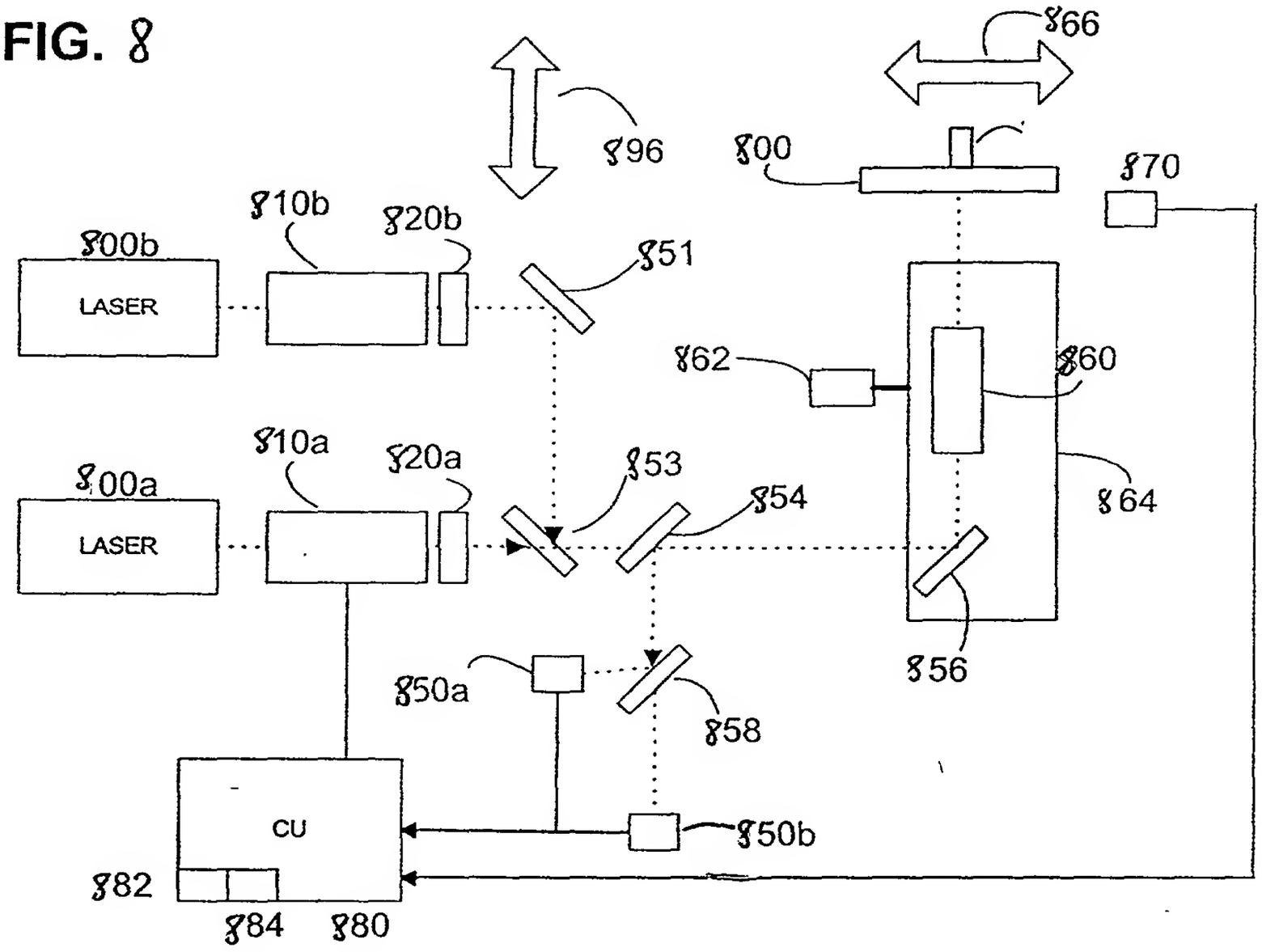


Fig. 7

FIG. 8


866
896
800
870
810b
820b
800b
LASER
851
862
860
810a
820a
800a
LASER
853
854
864
856
850a
858
CU
850b
882
884
880

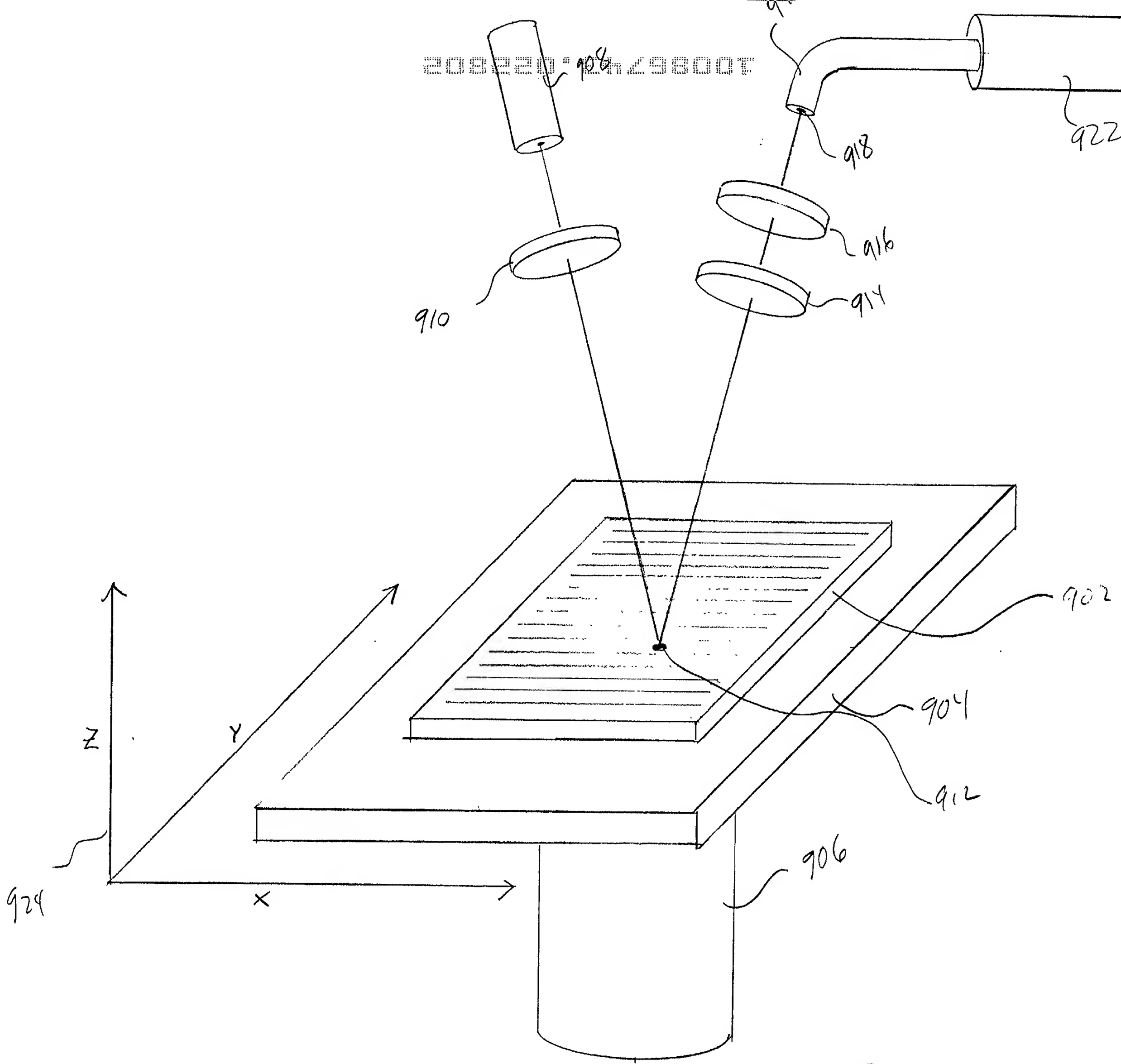


Figure 9

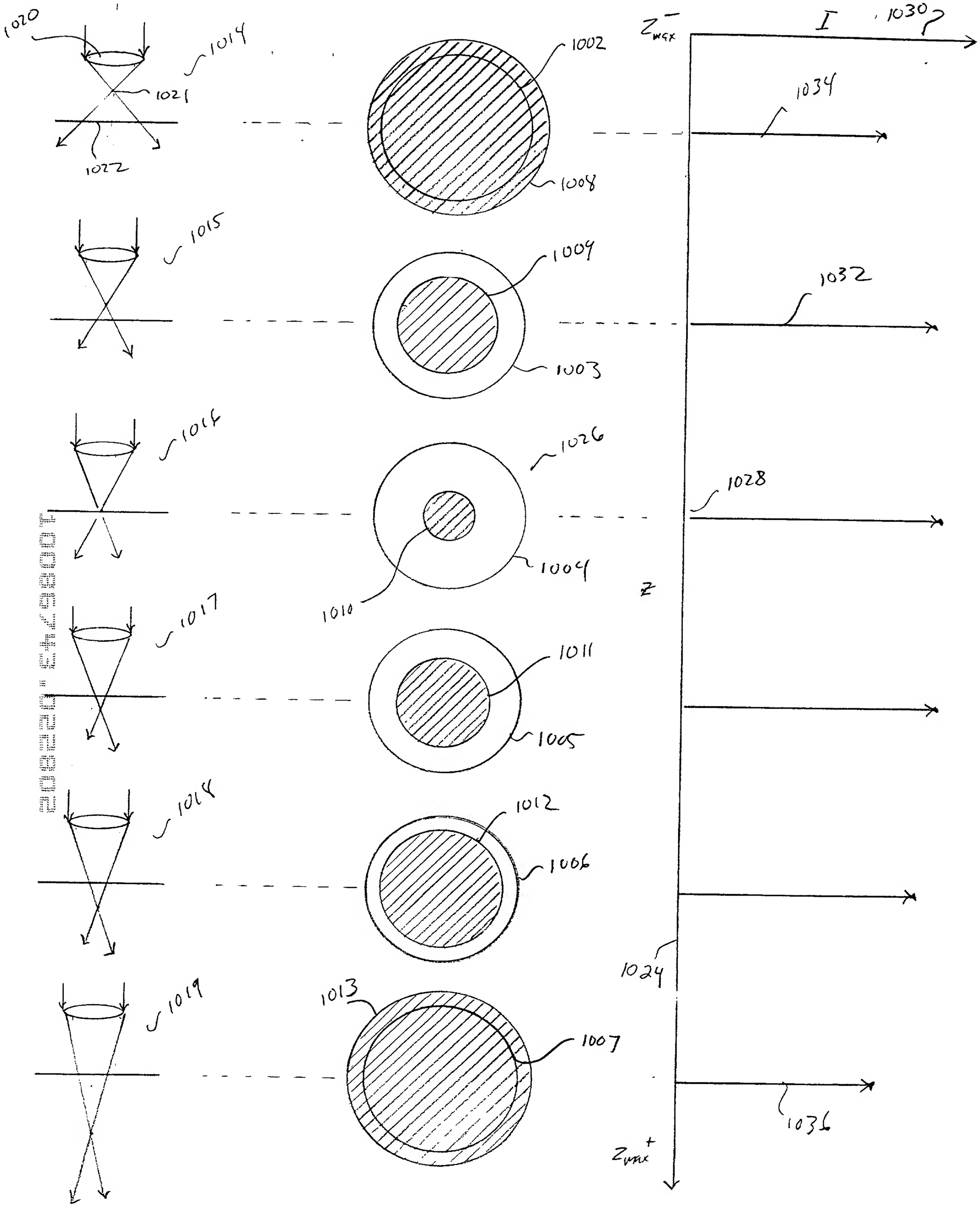

1020
1014
1021
1022
1002
1008
1015
1009
1003
1016
1026
1004
1010
1017
1011
1005
1018
1012
1006
1019
1013
1007
Z_{max}^-
I
1030
1034
1032
1028
Z
1024
1036
Z_{max}^+

Figure 10

20020" Eh298001

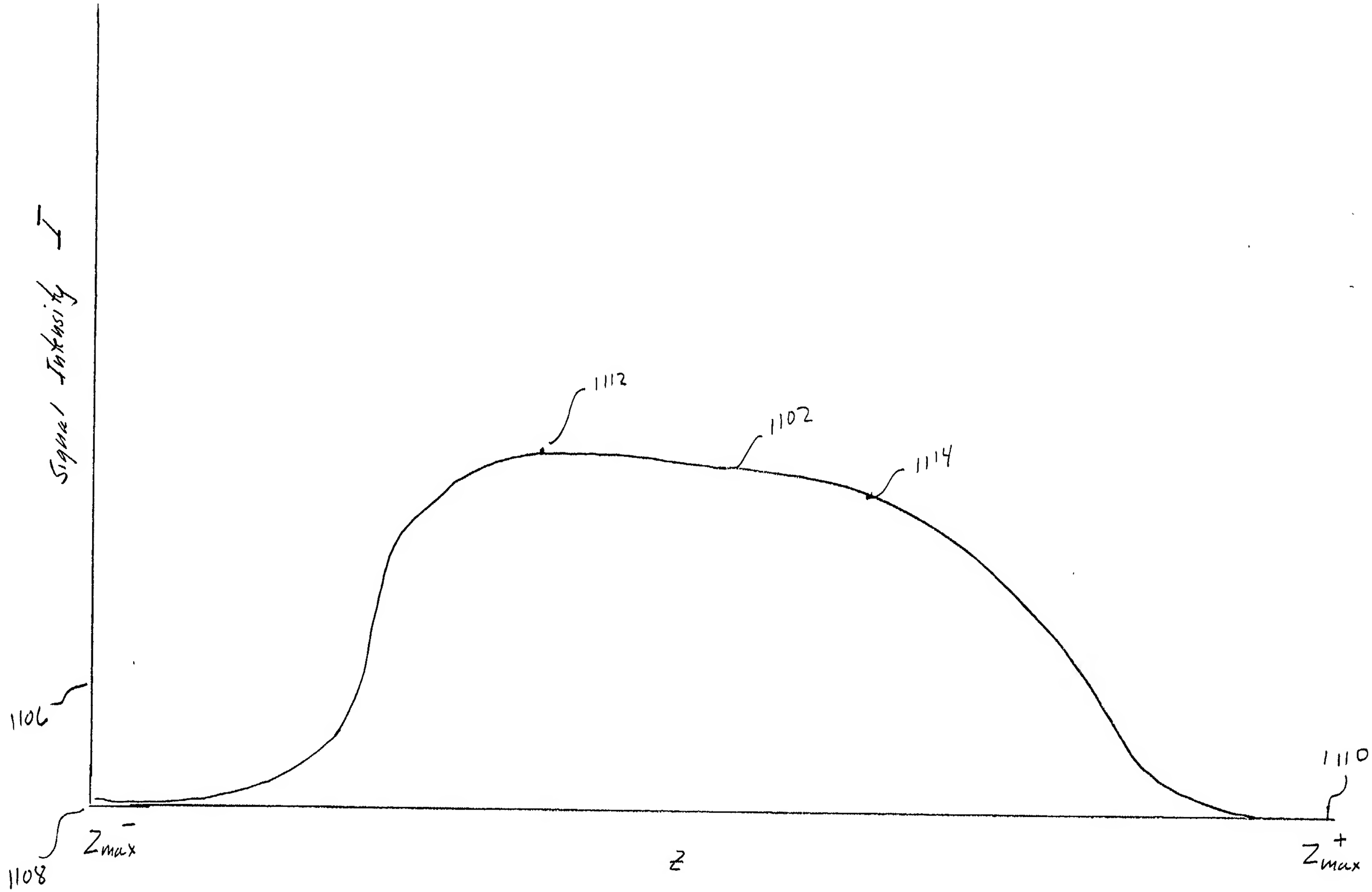


Figure 11

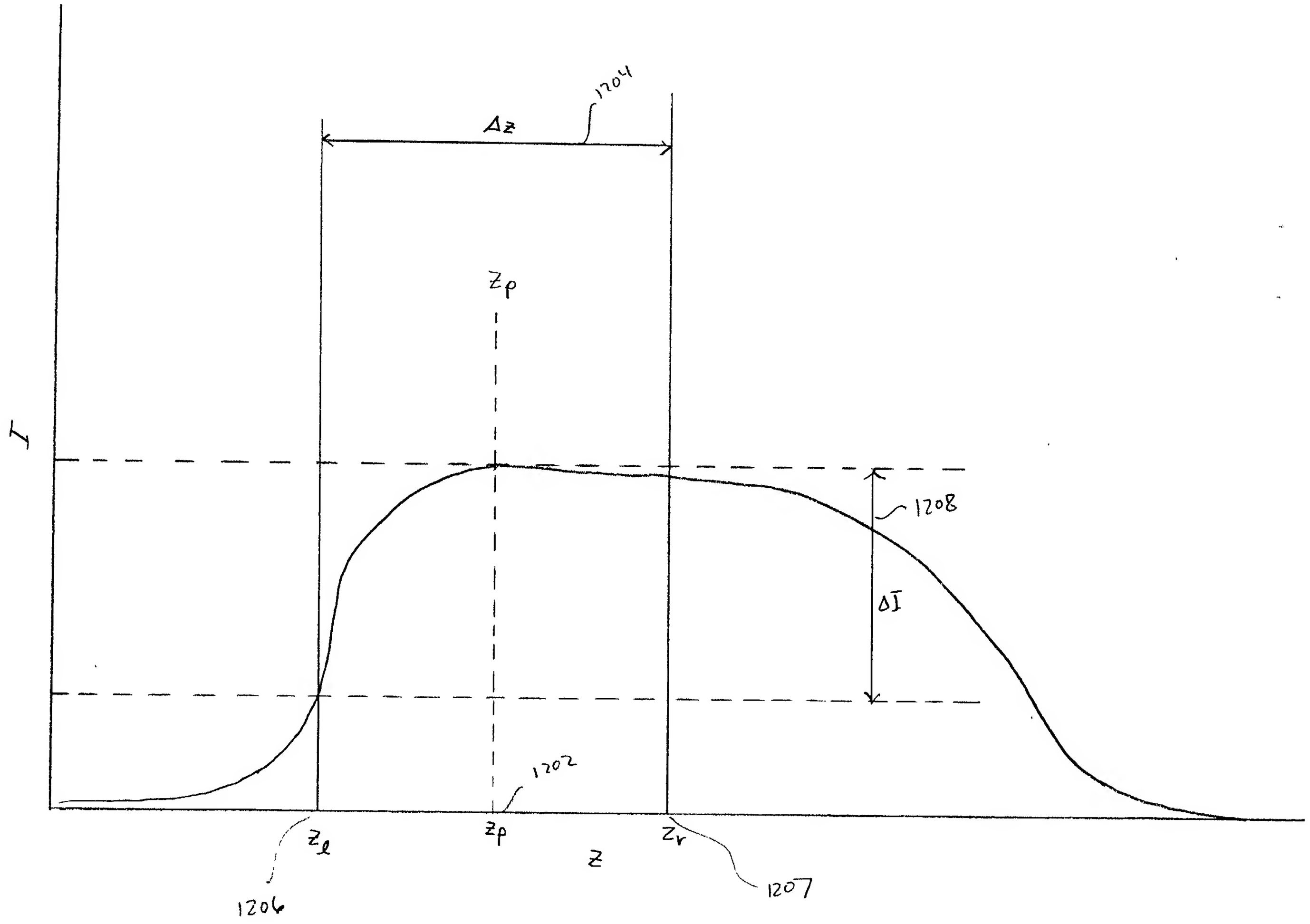


Figure 12

2093220" Ch2980GT

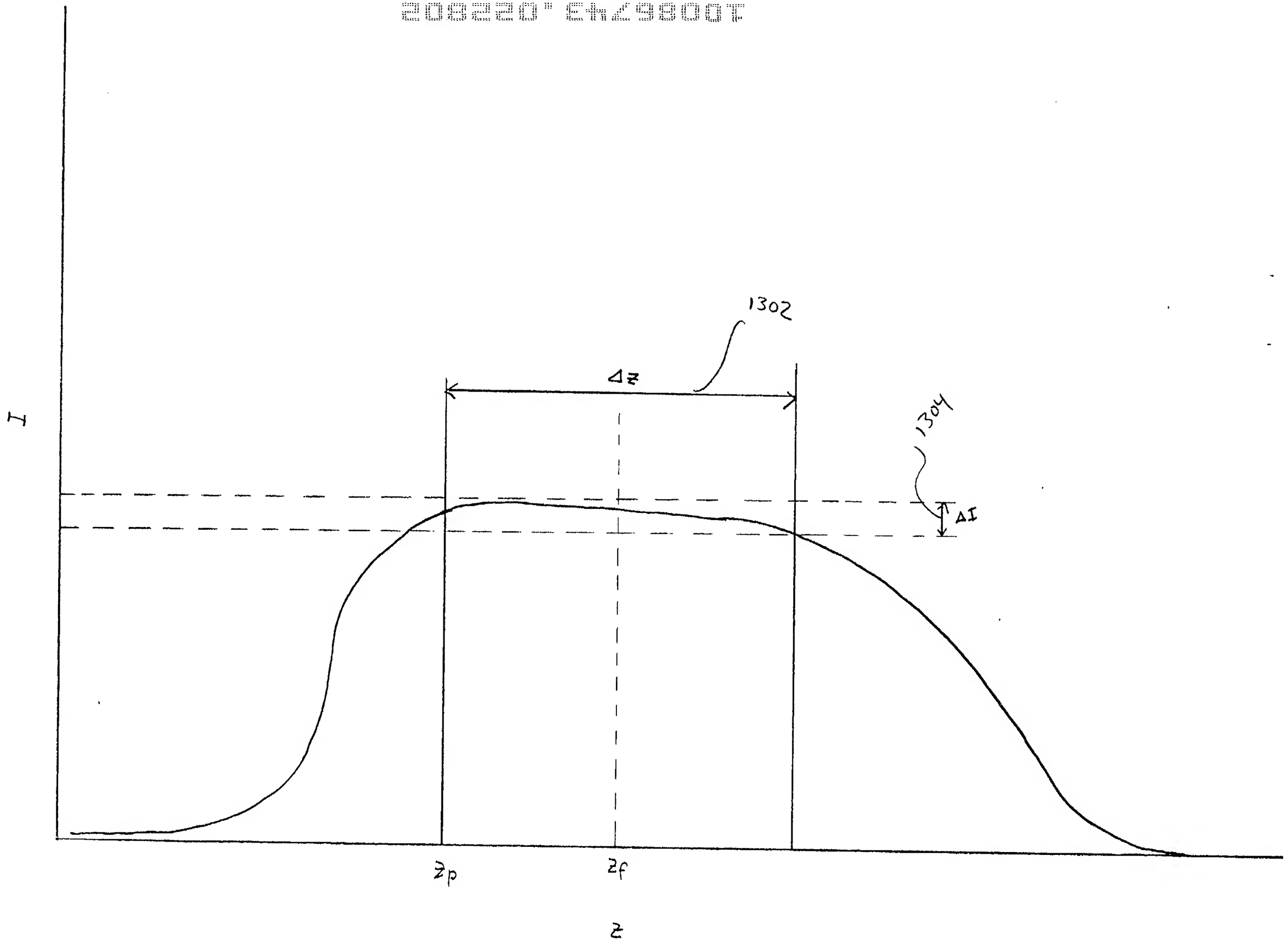


Figure 13

2098230" Ek/9900T

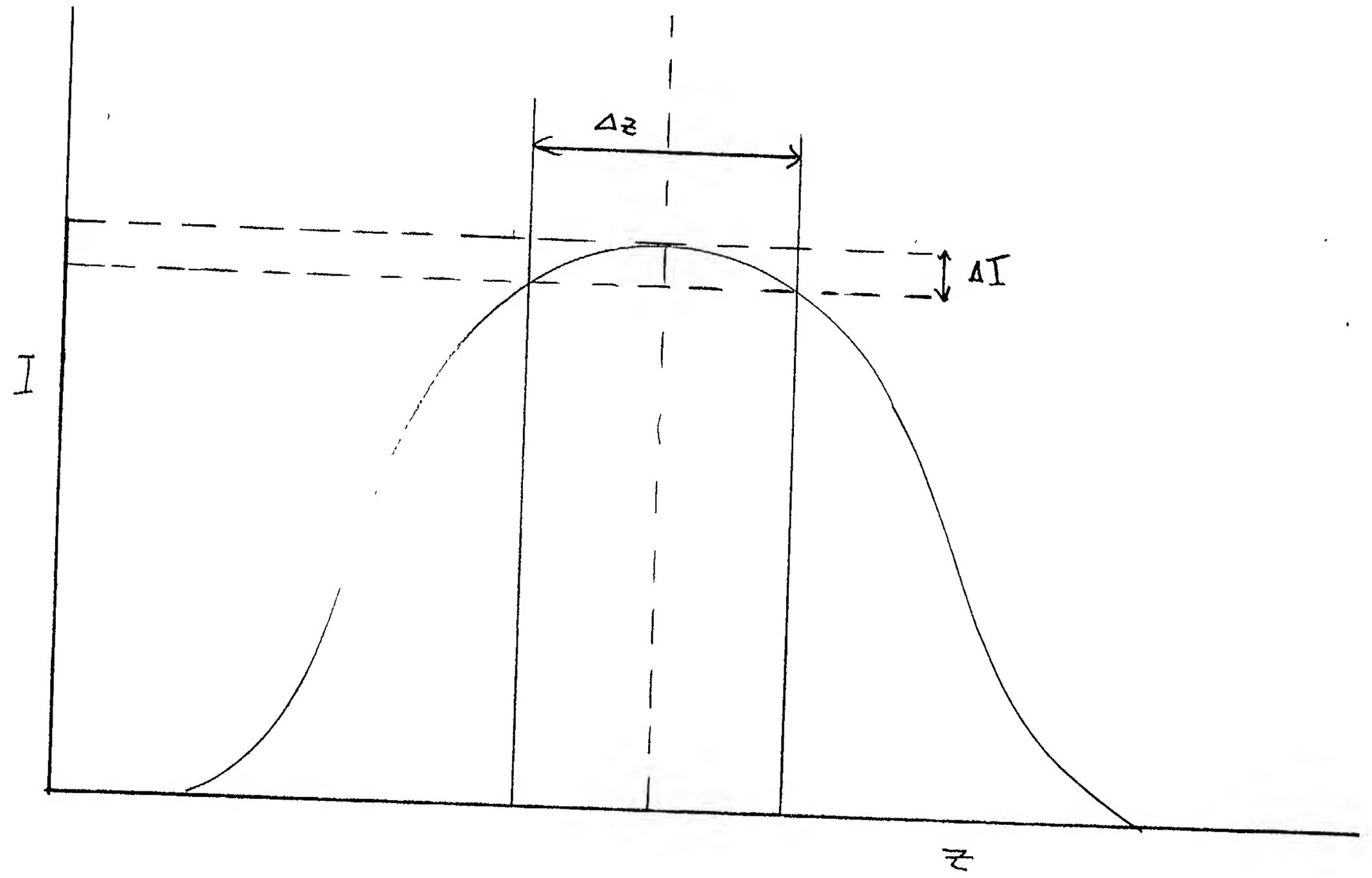


Figure 14

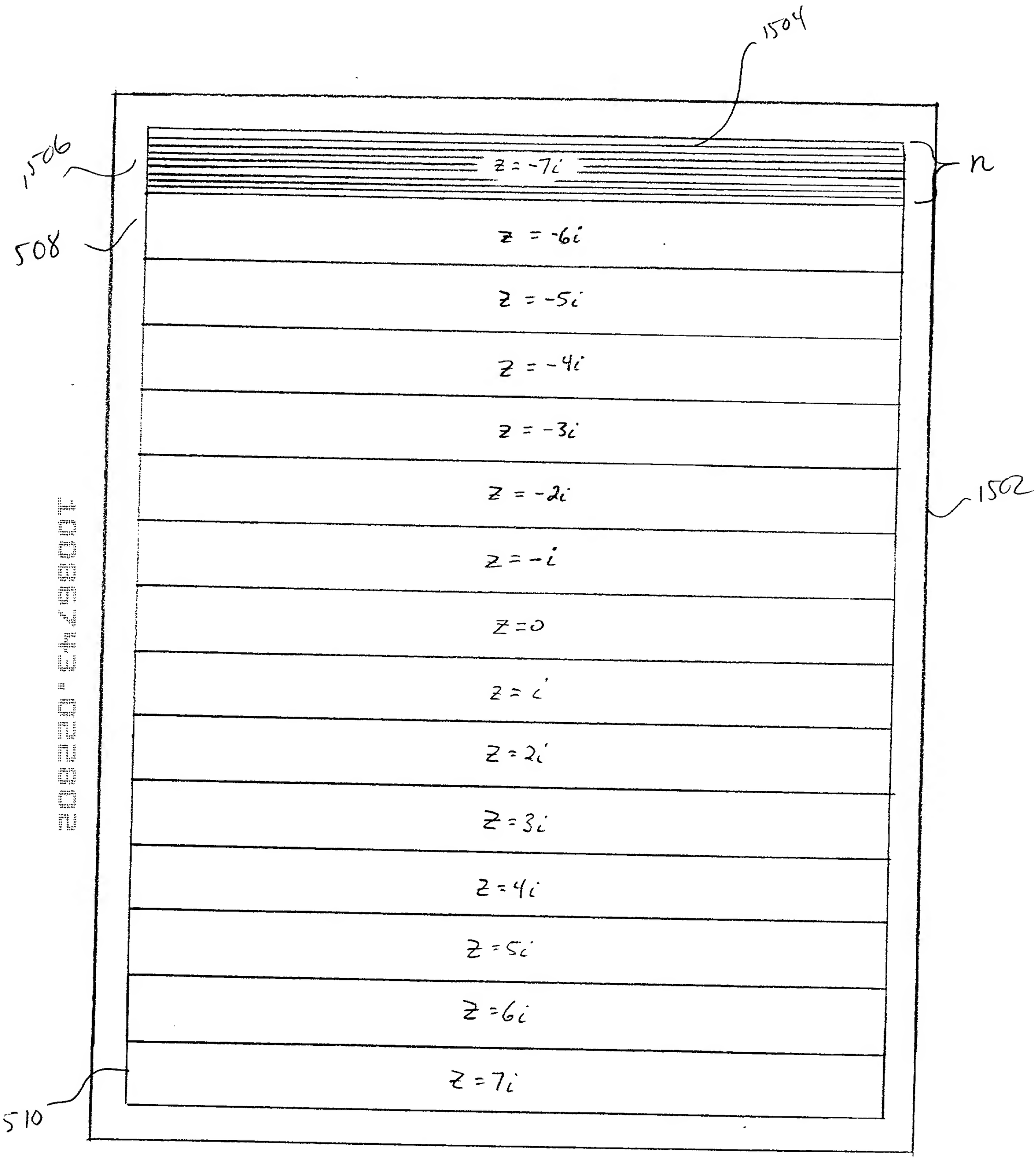

1504
1506
n
z = -7i
508
z = -6i
z = -5i
z = -4i
z = -3i
z = -2i
1502
z = -i
z = 0
z = i
z = 2i
z = 3i
z = 4i
z = 5i
z = 6i
z = 7i
510

Figure 15

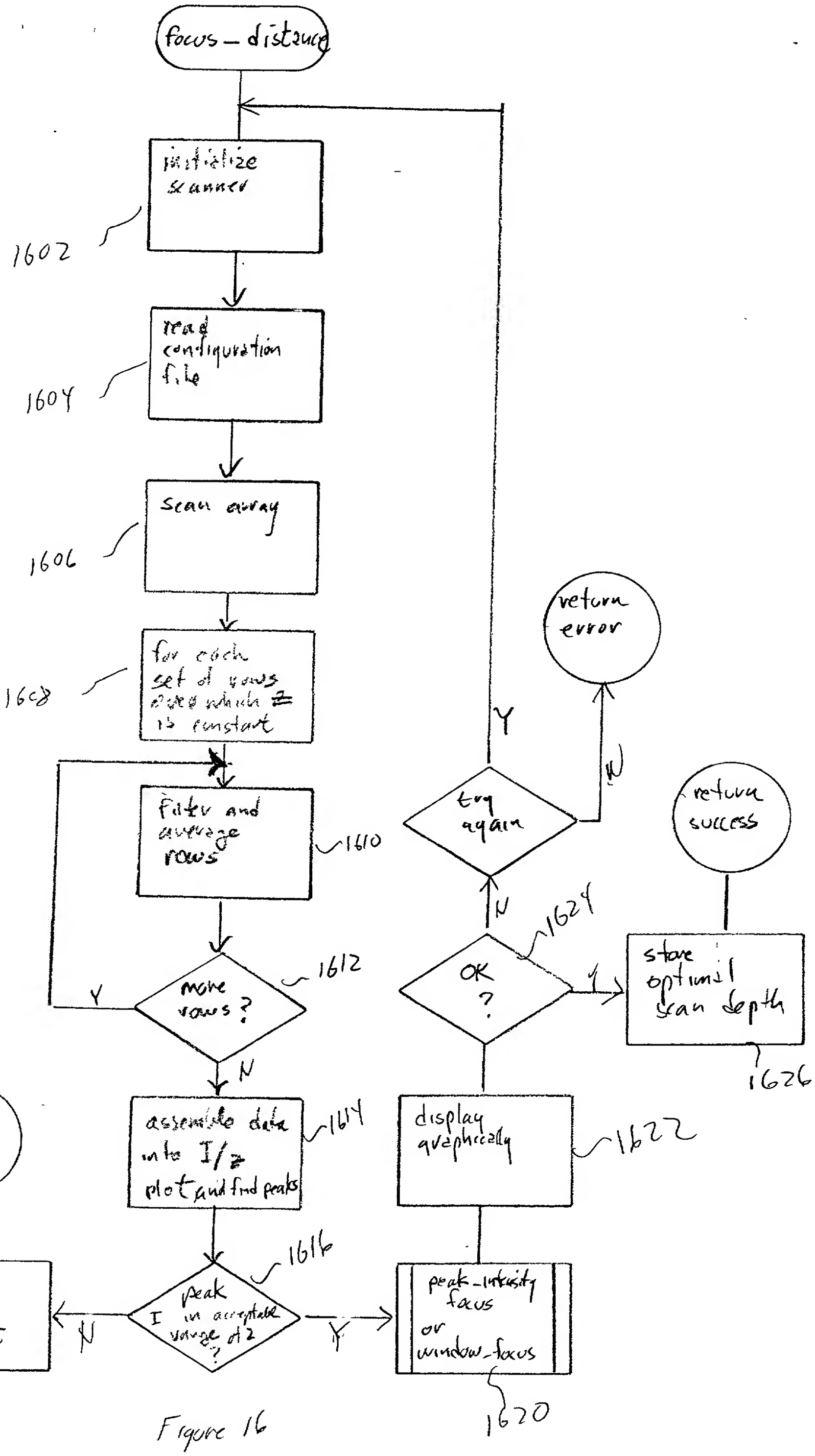

focus_distance
initialize scanner
1602
read configuration file
1604
scan array
1606
for each set of rows over which Δz is constant
1608
filter and average rows
1610
more rows?
1612
Y
N
assemble data into I/z plot and find peaks
1614
peak I in acceptable range of z?
1616
Y
N
coarse z-position alignment
1618
return error
peak_intensity focus
or
window_focus
1620
display graphically
1622
OK?
1624
Y
N
store optimal scan depth
1626
return success
try again
Y
N
return error

Figure 16

2098230 "Ch298001"

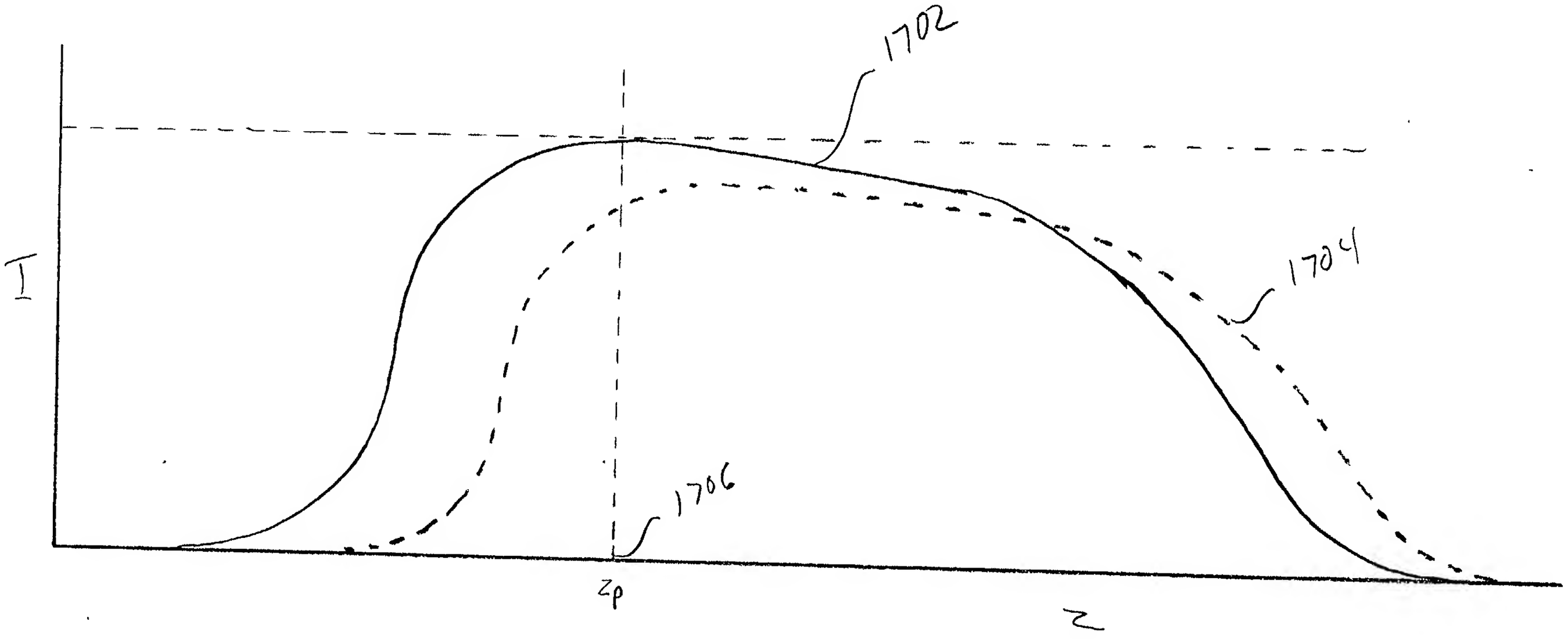
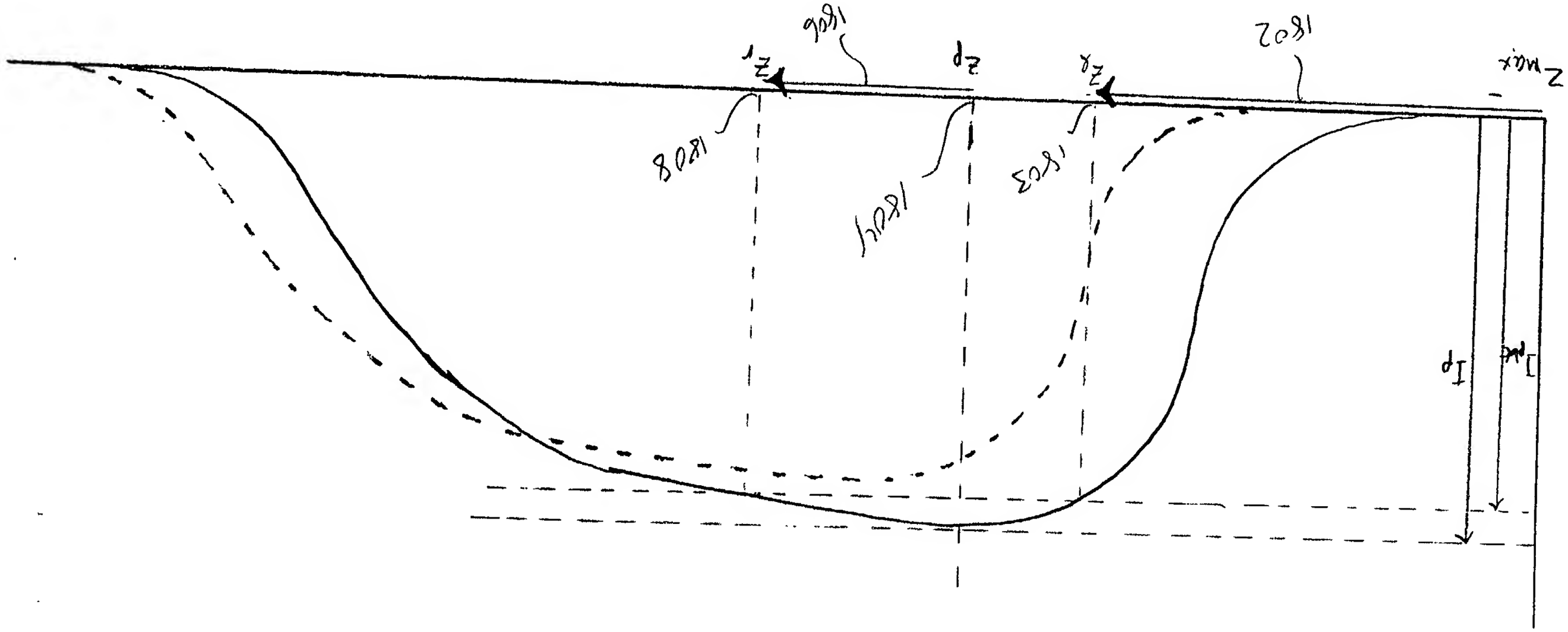


Figure 17

Figure 18



10086743.022802

208220 Eh298001

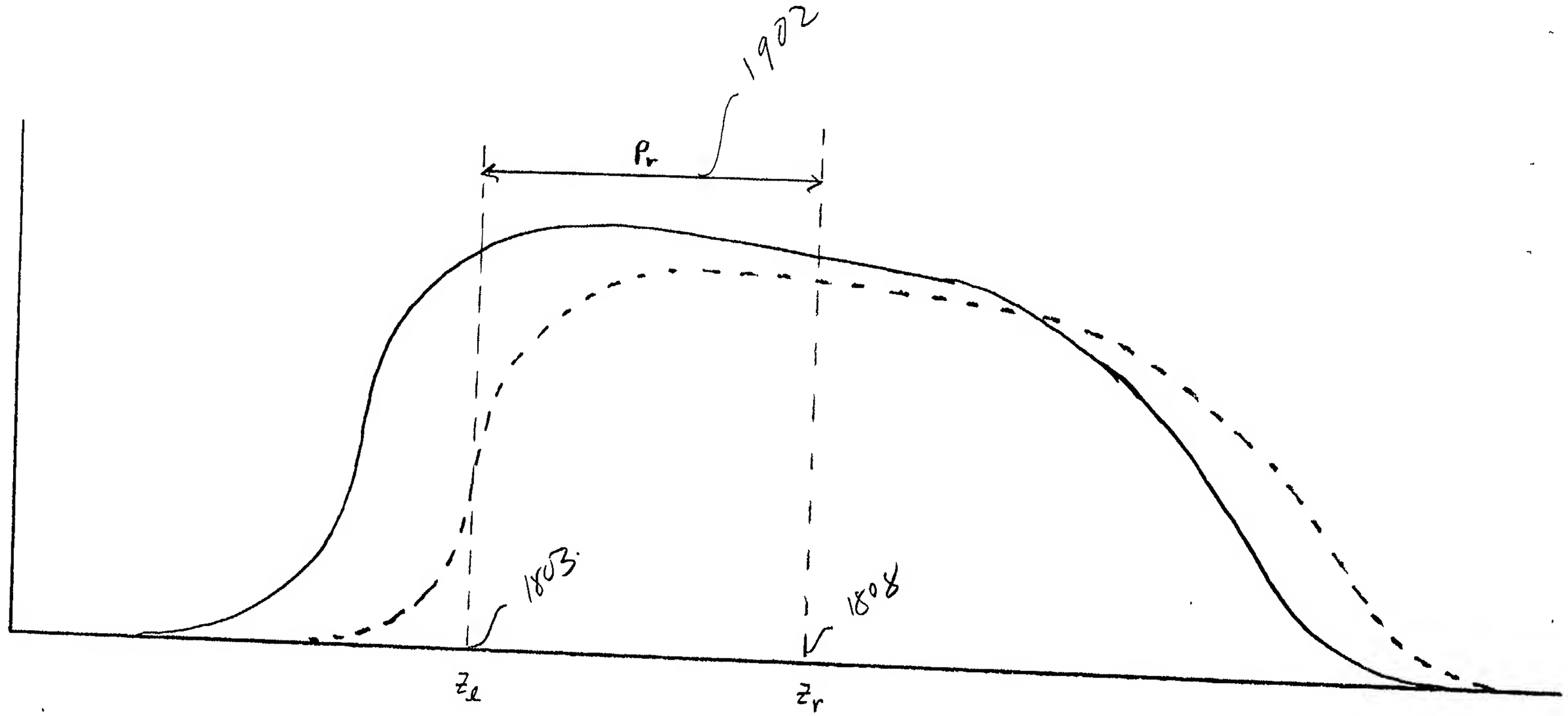


Figure 19

20B320 "E4298001

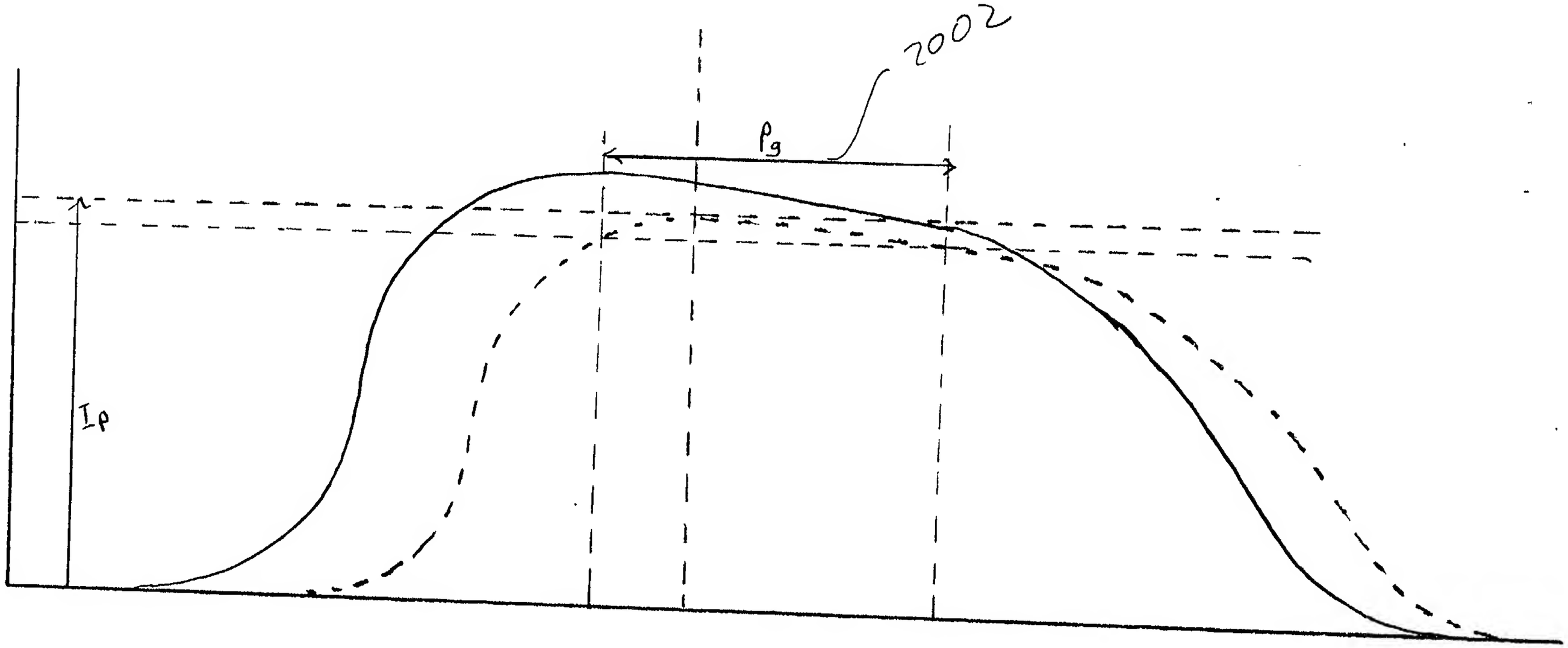


Figure 20

20820"Eh79800t

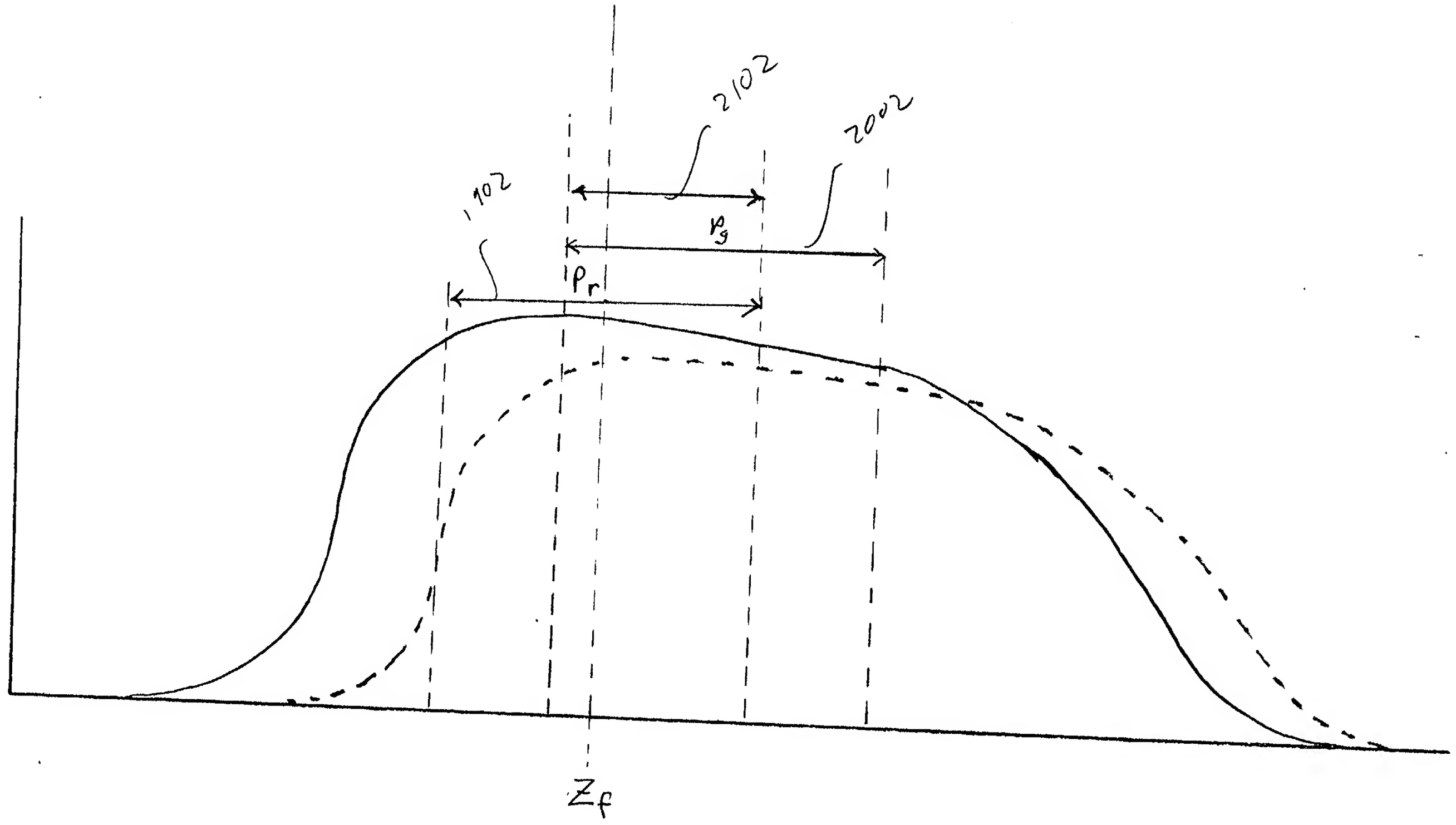


Figure 21

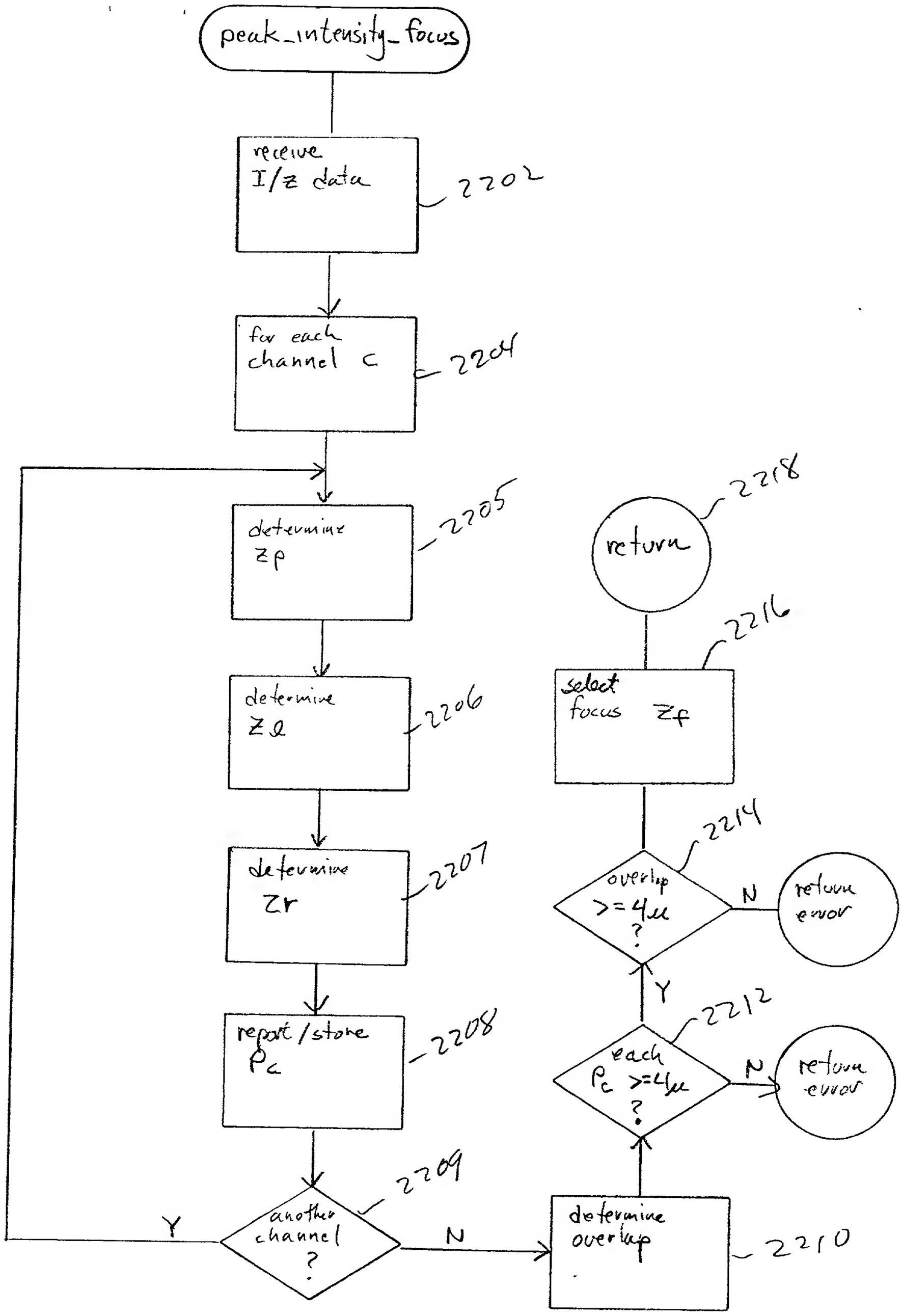

peak_intensity_focus
receive I/z data
2202
for each channel c
2204
determine zp
2205
determine zl
2206
determine zr
2207
report/store Pc
2208
another channel ?
2209
Y
N
determine overlap
2210
select focus zf
2216
overlap >= 4μ ?
2214
N
return error
Y
each Pc >= 4μ ?
2212
N
return error
return
2218

Figure 22

208220 "Ex298001"

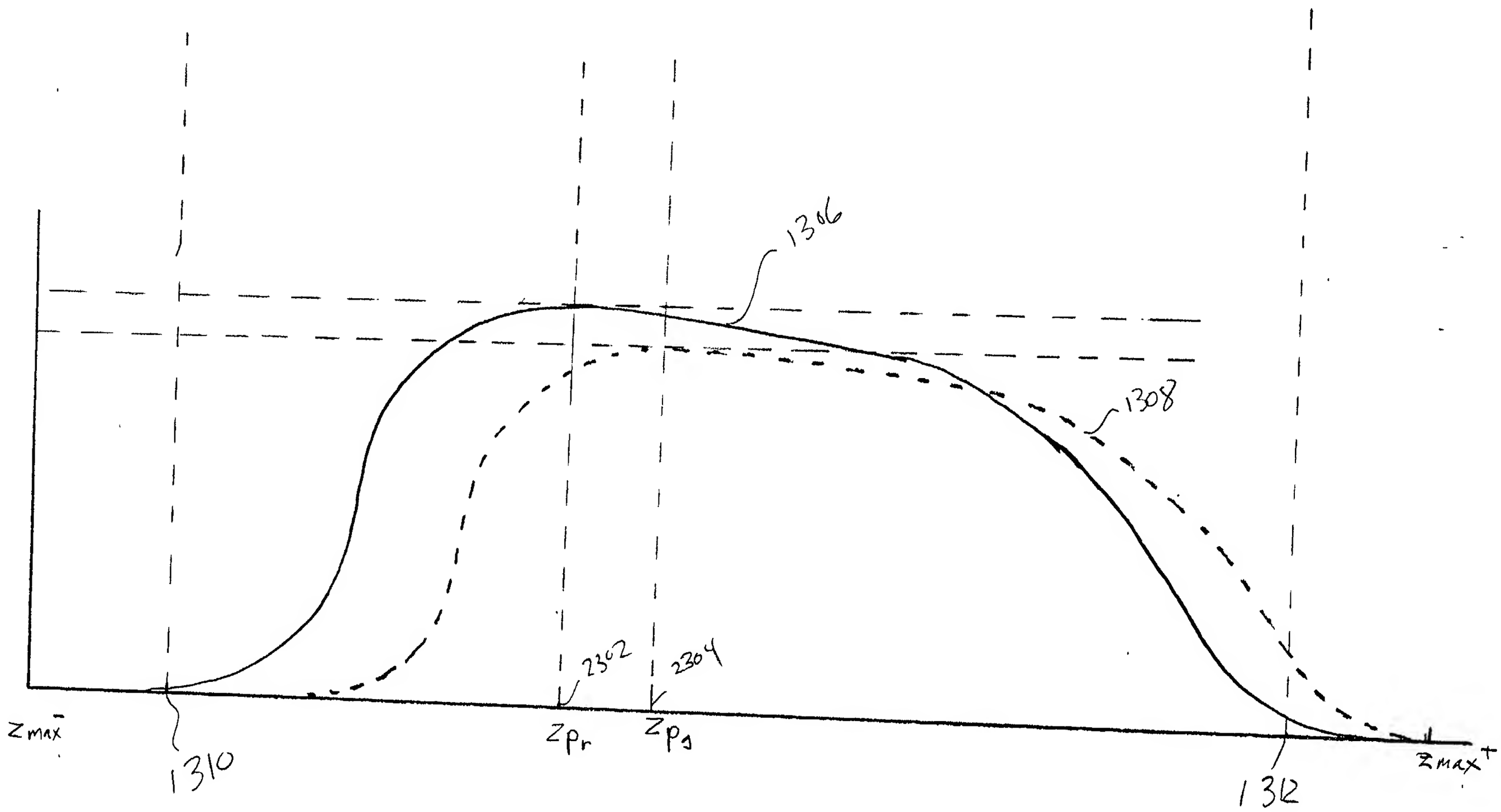


Figure 23

208220 EH298001

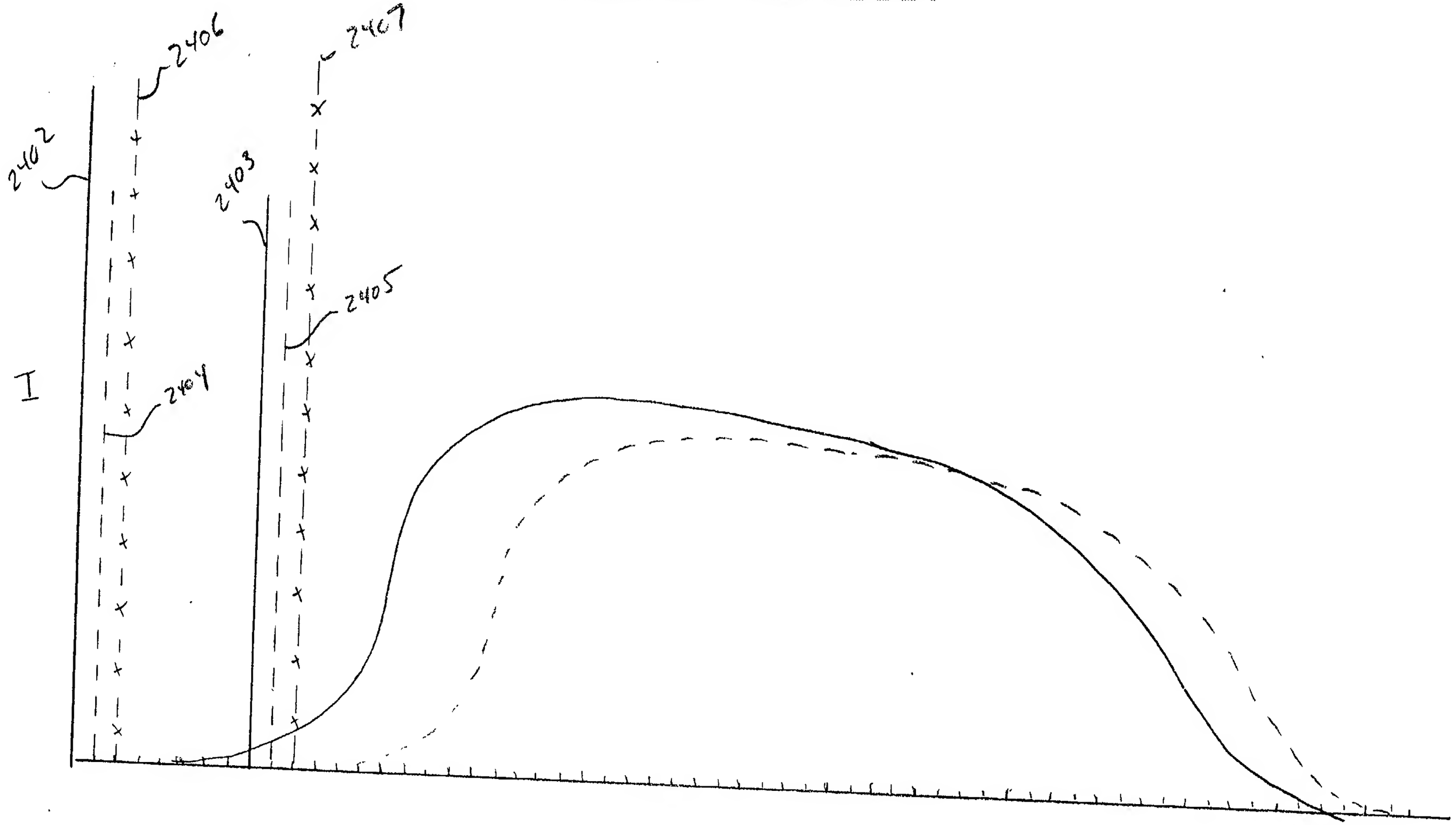


Figure 24

208220" Eh29800f

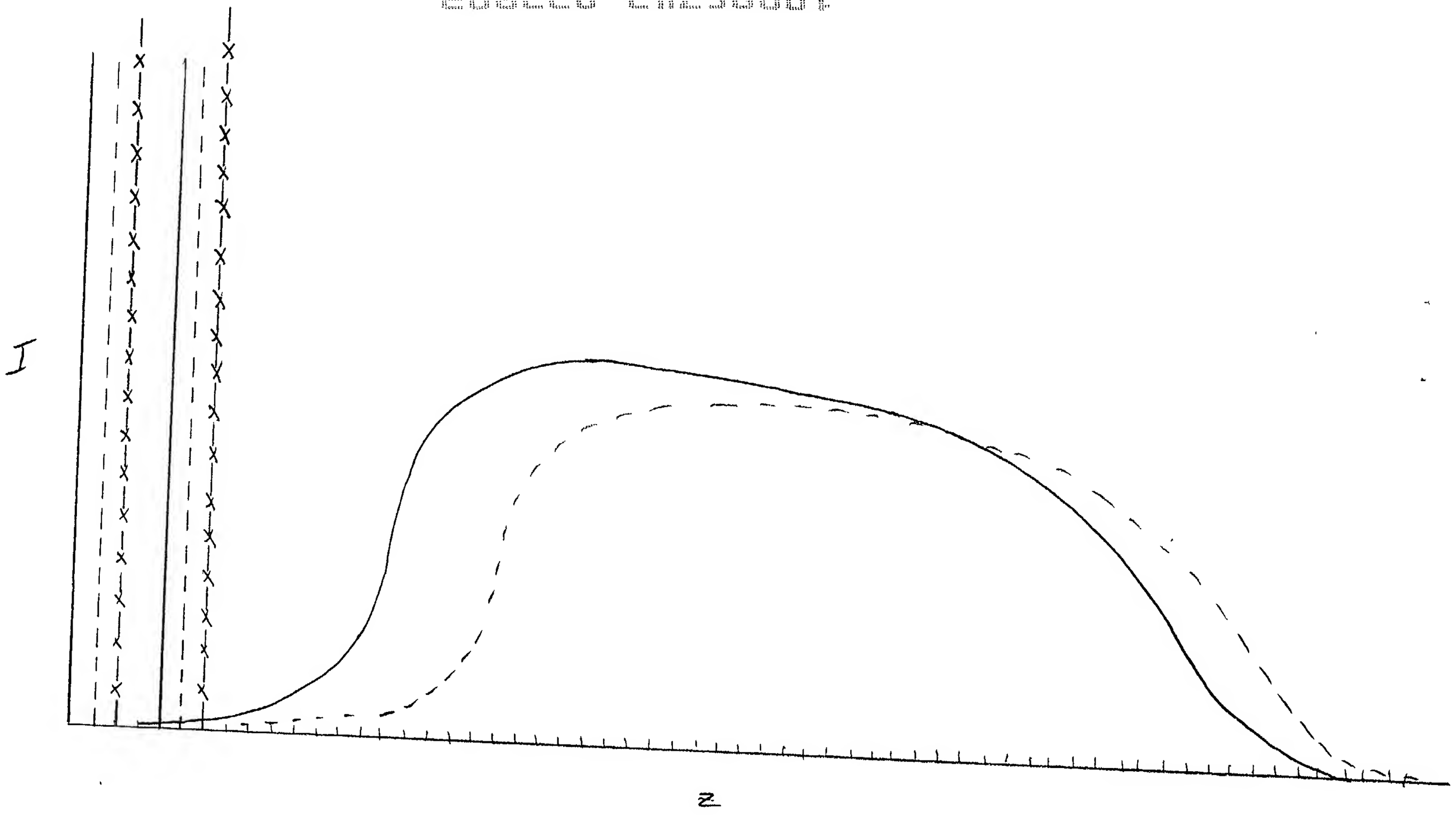


Figure 25

Figure 2c

1008674 3.022802

2098220 Exp98087

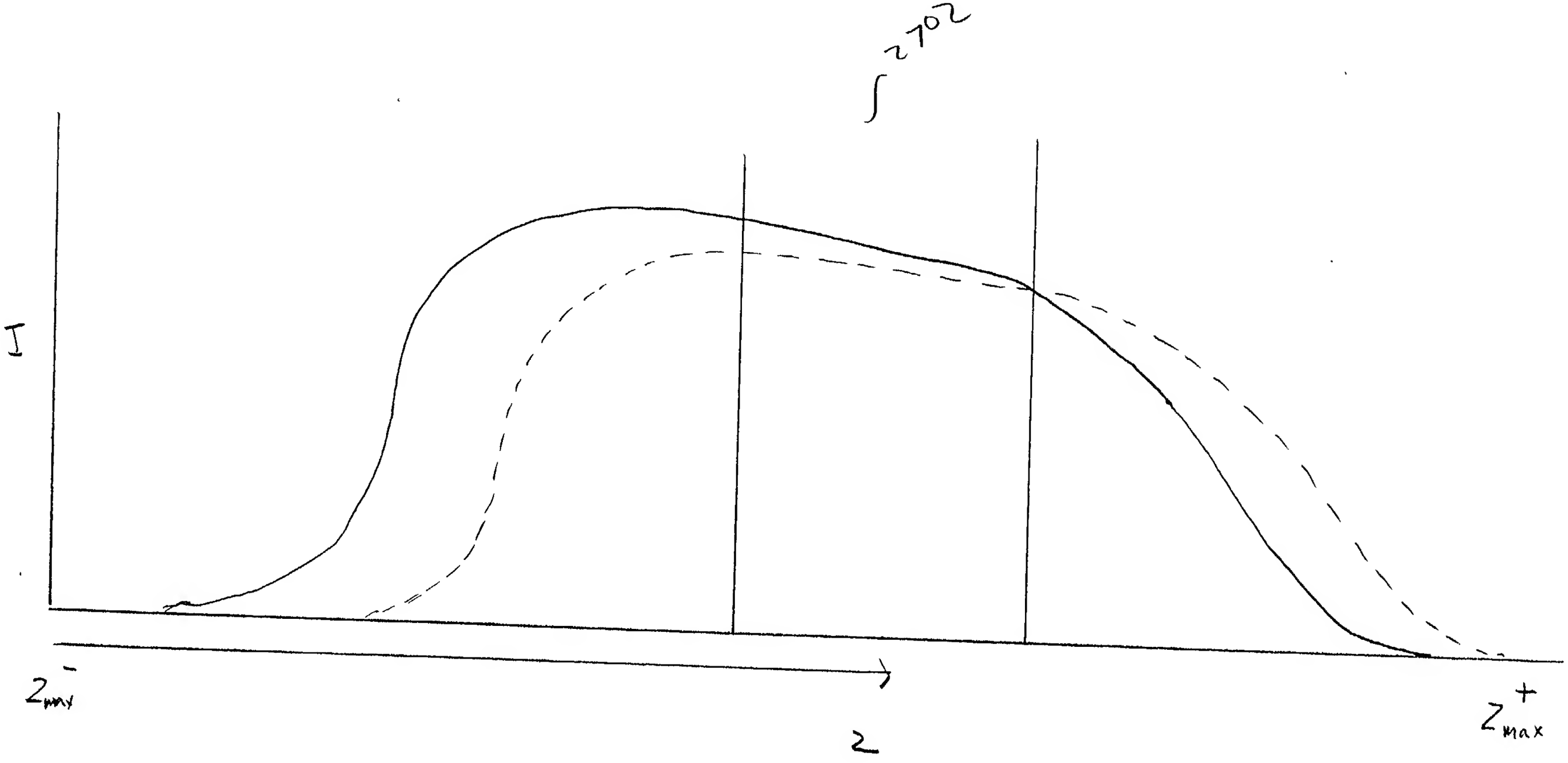


Figure 27

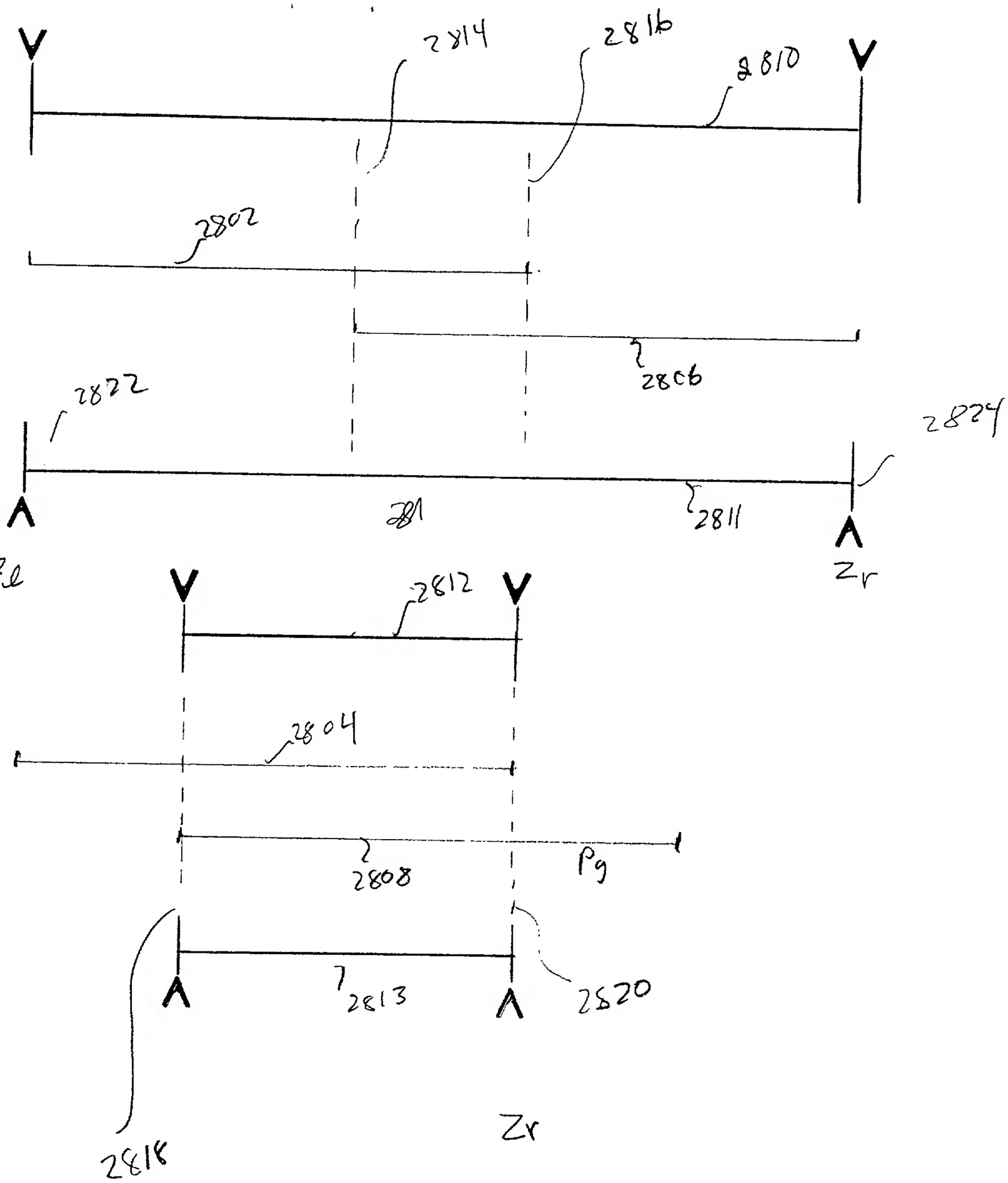

2814
2816
2810
2802
2806
2822
2824
2811
2812
2804
2808
2813
2820
2818
Zr

Figure 28B

208220" EP2980GT

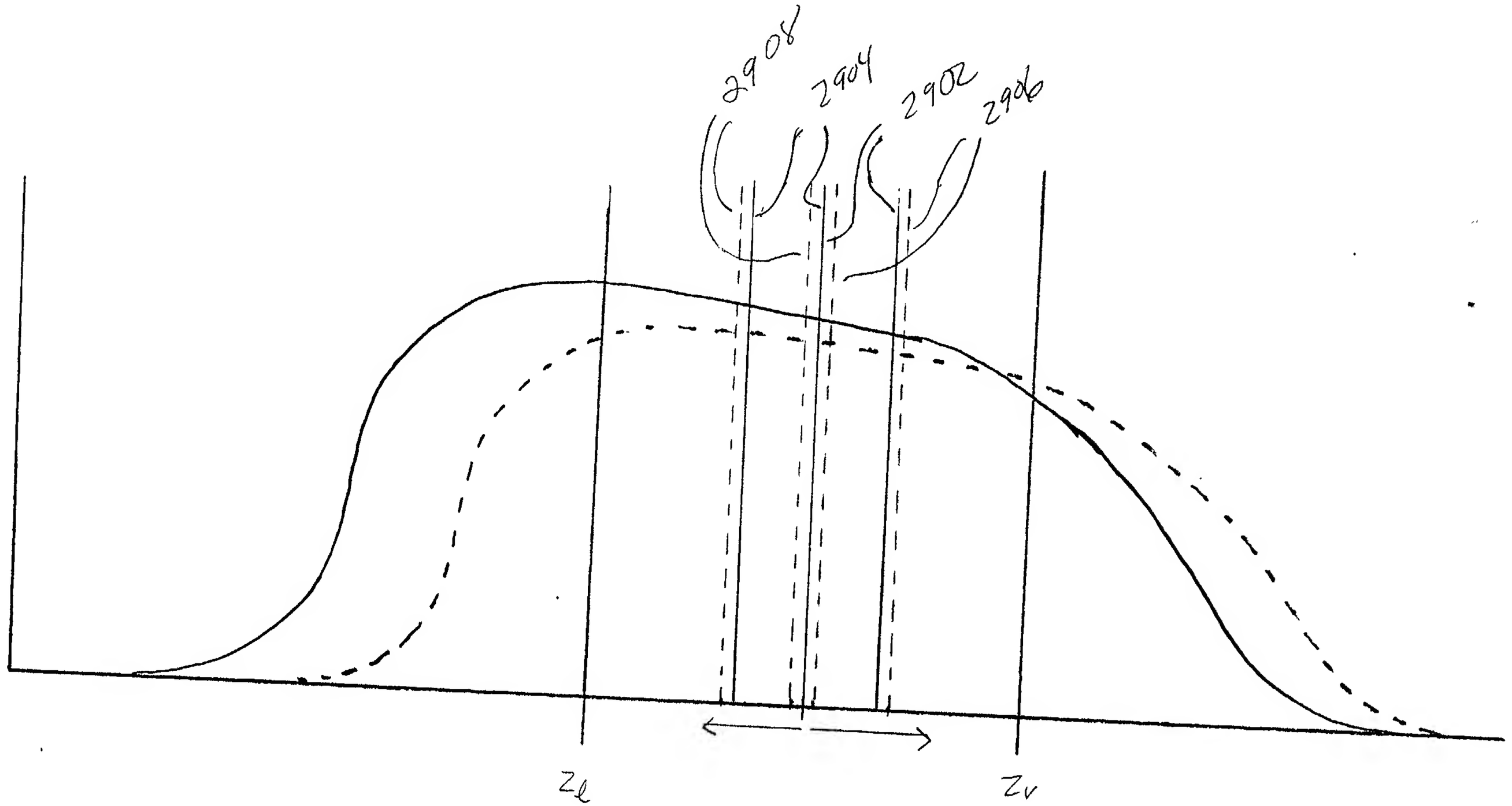


Figure 29

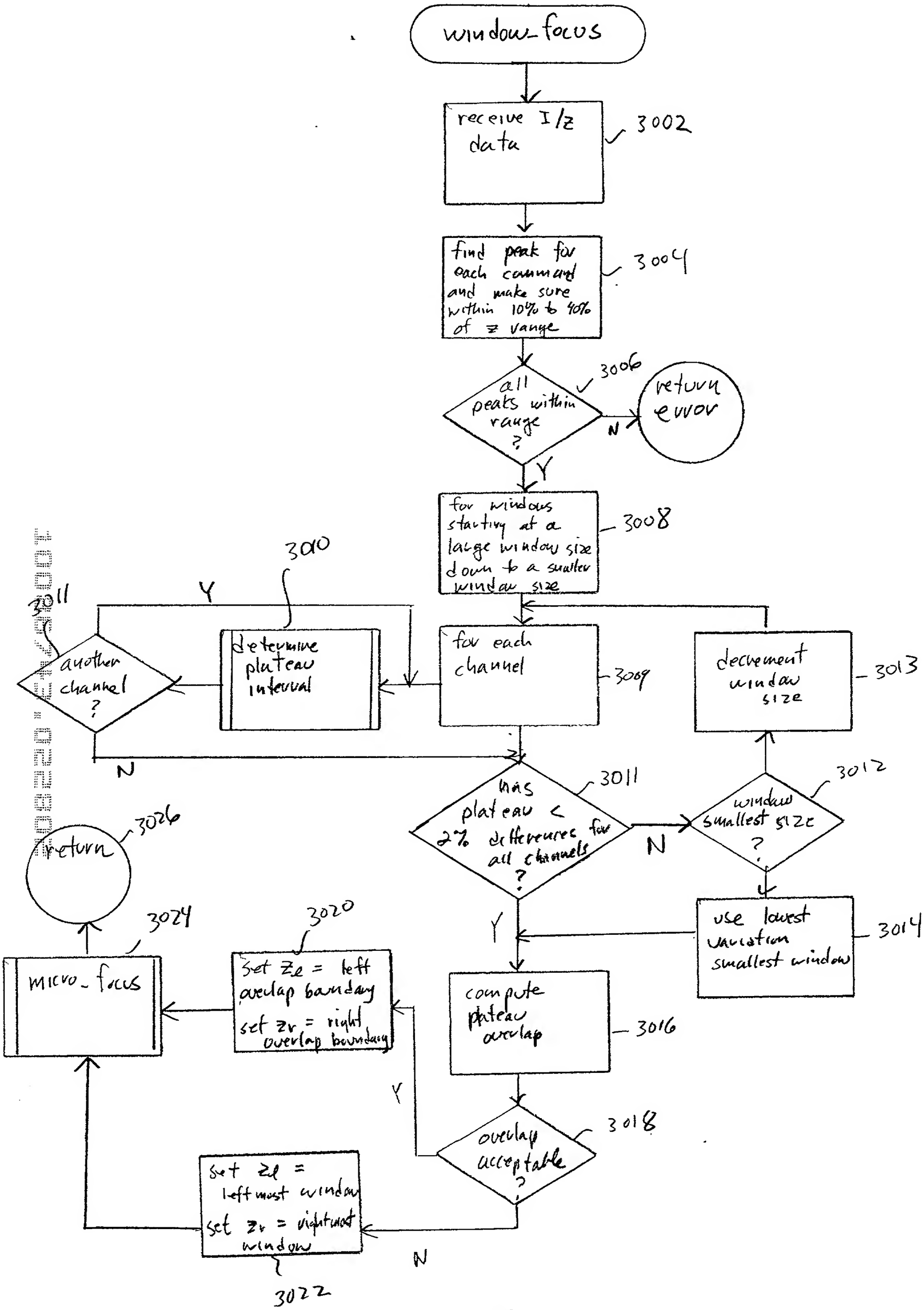

window_focus
receive I/z data
3002
find peak for each command and make sure within 10% to 90% of z range
3004
all peaks within range ?
3006
return error
N
Y
for windows starting at a large window size down to a smaller window size
3008
3010
3011
another channel ?
Y
determine plateau interval
N
for each channel
3009
decrement window size
3013
has plateau < 2% differences for all channels ?
3011
window smallest size ?
3012
N
Y
use lowest variation smallest window
3014
3026
return
3024
3020
micro_focus
set zl = left overlap boundary
set zr = right overlap boundary
compute plateau overlap
3016
Y
overlap acceptable ?
3018
set zl = leftmost window
set zr = rightmost window
3022
N

Figure 30

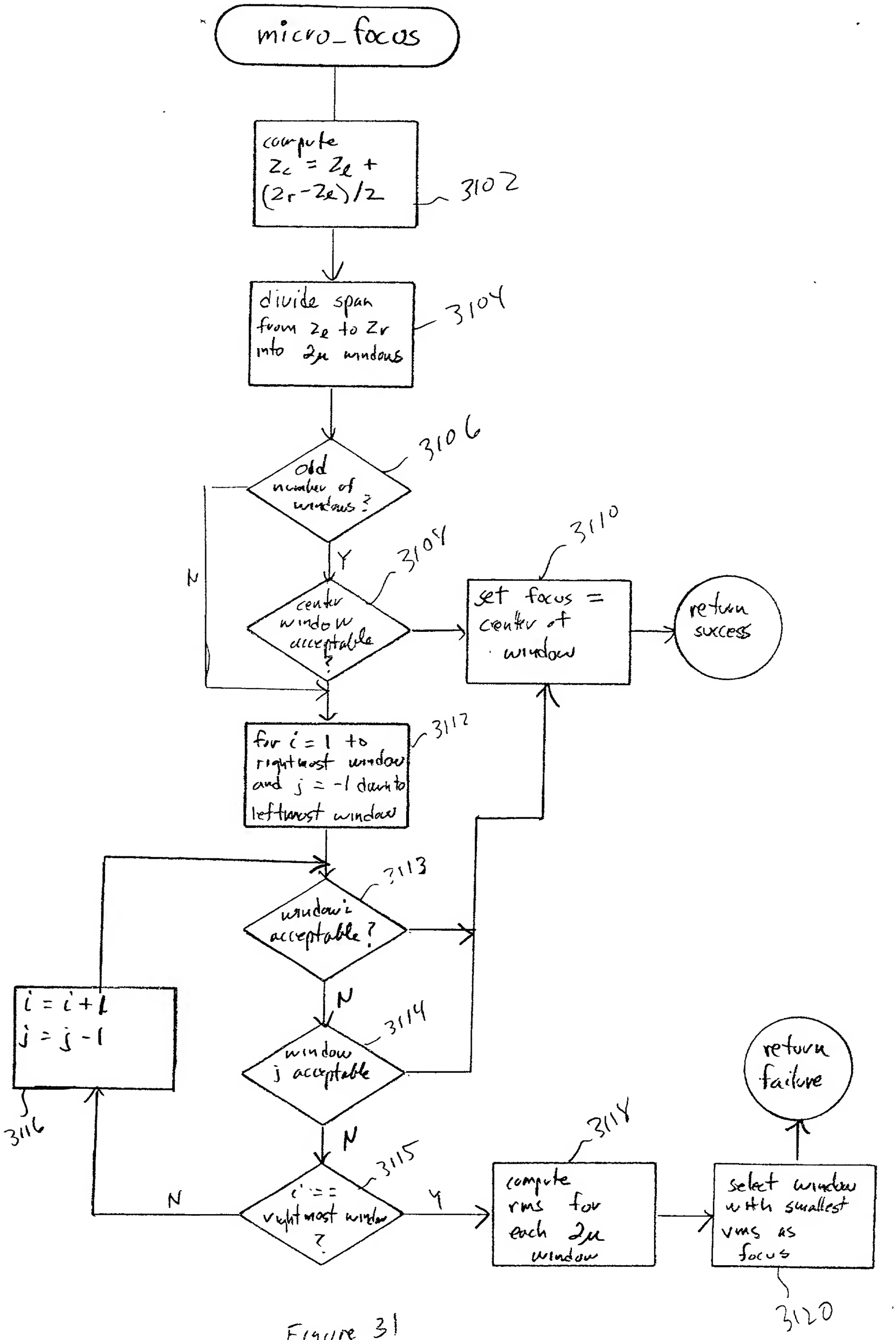

micro_focus
compute $z_c = z_l + (z_r - z_l)/2$
3102
divide span from z_l to z_r into 2μ windows
3104
odd number of windows?
3106
Y
N
center window acceptable?
3108
set focus = center of window
3110
return success
for i = 1 to rightmost window and j = -1 down to leftmost window
3112
window i acceptable?
3113
N
window j acceptable
3114
N
i == rightmost window?
3115
N
Y
i = i + 1
j = j - 1
3116
compute rms for each 2μ window
3118
select window with smallest vms as focus
return failure
3120

Figure 31